# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

| Applicant's or agent's file reference | FOR FURTHER ACTION | see Form PCT/ISA/220 as well as, where applicable, item 5 below. |
|---|---|---|
| P20027PC00 | | |
| International application No. | International filing date *(day/month/year)* | (Earliest) Priority Date *(day/month/year)* |
| **PCT/AU2004/001489** | 28 October 2004 | 31 October 2003 |

Applicant

VENTRACOR LIMITED et al

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**Basis of the report**

a. With regard to the **language,** the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box No. II).

3. ☐ **Unity of invention is lacking** (See Box No. III).

4. With regard to the **title,**

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

**PLASMA IMMERSION ION IMPLANTATION USING CONDUCTIVE MESH**

5. With regard to the **abstract,**

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings,**

a. the figure of the **drawings** to be published with the abstract is Figure No. **1**

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
**PCT/AU2004/001489**

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. [7]: H01J 37/32, 37/317, 37/09, 37/20, 37/30, C23C 14/48, 14/50, 14/20, C08J 3/28, A61M 1/10, 1/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
DWPI: +contact+, a61m-001/10/ic, a61m-001/12/ic, attract+, blood, bombard+, c08j-003/28/ic, c23c-014/20/ic, c23c-014/48/ic, c23c-014/50/ic, coat+, conductive, draw+, electric, electrode, even, evenly, expose, gas, grid, grill?, h01j-037/09/ic, h01j-037/20/ic, h01j-037/30/ic, h01j-037/317/ic, h01j-037/32/ic, immersion, impeller, implant+, ion, ion?, mesh, mesh+, modif+, mount+, net+, oscillat+, pi3, piii, plasma, potential, process+, pump, rotat+, screen, screen?, screen+, shield+, spread, stage, support, support+, surface, treat+, treat+, tumbl+, volt+, voltage, web+,

DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| | US 6,335,268 B1 (MURZIN et al.) 1 January 2002. | |
| X | The whole document. | 1, 3, 5–6, 9–10, 12–14 |
| Y | The whole document. | 7, 8, 15, 16 |
| | US 4,863,576 A (COLLINS et al.) 5 September 1989. | |
| X | The whole document. | 1–3, 6, 9–10, 13–14 |
| Y | The whole document. | 7,8,15,16 |
| | US 6,504,307 B1 (MALIK et al.) 7 January 2003. | |
| Y | The whole document. | 7, 8, 15, 16 |

[X] Further documents are listed in the continuation of Box C [X] See patent family annex

Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

| Date of the actual completion of the international search | Date of mailing of the international search report |
|---|---|
| 7 December 2004 | 17 DEC 2004 |
| Name and mailing address of the ISA/AU | Authorized officer |
| AUSTRALIAN PATENT OFFICE<br>PO BOX 200, WODEN ACT 2606, AUSTRALIA<br>E-mail address: pct@ipaustralia.gov.au<br>Facsimile No. (02) 6285 3929 | **RAJEEV DESHMUKH**<br>Telephone No : (02) 6283 2145 |

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU2004/001489

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| A | US 2001/0046566 A1 (CHU et al.) 29 November 2001. The whole document. | |
| A | US 5,003,178 A (LIVESAY) 26 March 1991. The whole document. | |
| A | US 6,087,615 A (SCHORK et al.) 11 July 2000. The whole document. | |
| A | CA 2,249,157 A (INSTITUT NATIONAL DE LA RECHERCHE SCIENTIFIQUE) 1 April 2000. The whole document. | |
| A | US 4,764,394 A (CONRAD) 16 August 1998. The whole document. | |
| A | US 5,558,718 (LEUNG) 24 September 1996. The whole document. | |
| | Note in relation to the "Y" indications: Either US 6335268 B1 or US 4863576 A may be combined with US 6504307 B1. | |

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.
**PCT/AU2004/001489**

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

| Patent Document Cited in Search Report | | Patent Family Member | | | | | |
|---|---|---|---|---|---|---|---|
| US | 6335268 | US | 6055928 | | | | |
| US | 4863576 | NONE | | | | | |
| US | 6504307 | NONE | | | | | |
| US | 2001046566 | US | 2003116090 | | | | |
| US | 5003178 | EP | 0395752 | WO | 9005990 | | |
| US | 6087615 | DE | 19618734 | DE | 19700856 | EP | 0876677 |
| | | WO | 9727613 | | | | |
| CA | 2249157 | NONE | | | | | |
| US | 4764394 | NONE | | | | | |
| US | 5558718 | NONE | | | | | |

Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

END OF ANNEX

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU2004/001489

**Box No. IV Text of the Abstract (Continuation of item 5 of the first sheet)**

A plasma processor (5) for modifying at least a region of a surface of a component (1); wherein the component (1) is bombarded by ions from a gas plasma environment (4); and the ions are draws towards the component (1) by a voltage source applied to a first mesh (3). The first mesh (3) is a stationary non-conformal mesh (3), and the component (1) does not contact the first mesh (3). The component (1) is moved (2) in the vicinity of the first mesh (3) to evenly expose it to ion bombardment (4).